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A.D. 1858, 19th NOVEMBER. N° 2613.

Boiling Water or Worts for Brewing, Distilling, &c.

LETTERS PATENT to George Howe, Engineer, and John Norton, Plumber, both of Sheffield, in the County of York, for the Invention of "AN IMPROVED METHOD OF BOILING WATER OR WORTS FOR BREWERYS, DISTILLERYS, &c., BY STEAM, OR FOR HEATING ROOMS, PUBLIC BUILDINGS, CHURCHES, CHAPELS, FACTORYS, &c."

Sealed the 15th March 1859, and dated the 19th November 1858.

PROVISIONAL SPECIFICATION left by the said George Howe and John Norton at the Office of the Commissioners of Patents, with their Petition, on the 19th November 1858.

We, GEORGE HOWE, Engineer, and JOHN NORTON, Plumber, both of 5 Sheffield, in the County of York, do hereby declare the nature of the said Invention for "AN IMPROVED METHOD OF BOILING WATER OR WORTS FOR BREWERYS, DISTILLERYS, &c., BY STEAM, OR FOR HEATING ROOMS, PUBLIC BUILDINGS, CHURCHES, CHAPELS, FACTORYS, &c.," to be as follows:—

I use an ordinary steam boiler, with pipes attached to the same, with taps 10 and valves (see the sketch annexed), for conducting the water into a coil of pipes of any metal, which coil is introduced into the boiling pan or vat, causing the liquid to boil rapidly, the condensed steam passing off into the boiler, and causing a great saving of coal and water, and preventing explosions from loss of water; this plan is adapted for drying houses of every description, 15 bleach yards, tan yards, sugar houses, soap works, and similar purposes.

Howe & Norton's Method of Boiling Water or Worts for Brewing, &c.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said George Howe and John Norton in the Great Seal Patent Office on the 17th May 1859.

TO ALL TO WHOM THESE PRESENTS SHALL COME, we, **GEORGE HOWE**, Engineer, and **JOHN NORTON**, Plumber, both of Sheffield, in the County 5 of Yorkshire, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Nineteenth day of November, in the year of our Lord One thousand eight hundred and fifty-eight, in the twenty-first year of Her reign, did, for Herself, Her heirs and successors, give and grant unto 10 us, the said George Howe and John Norton, Her special licence that we, the said George Howe and John Norton, our executors, administrators, and assigns, or such others as we, the said George Howe and John Norton, our executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term 15 therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**AN IMPROVED METHOD OF BOILING WATER OR WORTS, FOR BREWERYS, DISTILLERYS, &c., BY STEAM, OR FOR HEATING ROOMS, PUBLIC BUILDINGS, CHURCHES, CHAPELS, FACTORYS, &c.**" upon the condition (amongst others) that we, the said George Howe and John Norton, our executors or administrators, by an instrument in writing under our, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed and cause the same to be filed in the Great Seal Patent Office 25 within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that we, the said George Howe and John Norton, do hereby declare the nature of our said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in 30 and by the following statement:—

We use a steam boiler of any kind or description, or fix our apparatus to any ordinary boiler which may be in use, by attaching an outlet pipe or pipes to the same, with taps and valves, as shown in the Drawing annexed, which pipe or pipes conducts the water or steam into a coil pipe, which may be 35 made of any metal, and which coil pipe is introduced into a boiling pan or vat, thereby causing the liquid in the pan or vat to boil quickly; the pipe is then carried from the pan or vat into the boiler, (see Drawing), thereby returning

Howe & Norton's Method of Boiling Water or Worts for Brewing, &c.

any condensed or waste steam, at the same time causing a great saving of coal, and preventing loss of water, with much less chance of explosion. This plan is adapted for drying houses of every description, bleach yards, sugar houses, soap works, and similar purposes; also, for heating buildings, churches, 5 chapels, factorys, &c.

Having now described and particularly ascertained the nature of our said Invention, and the manner in which the same is or may be used or carried into effect, we would observe, in conclusion, that we do not confine or restrict ourselves to the precise details or arrangements which we have had occasion to 10 describe or refer to, as many variations may be made therefrom without deviating from the principles of the said Invention.

In witness whereof, we, the said George Howe and John Norton, have hereunto set our hands and seals, this Sixth day of May, One thousand eight hundred and fifty-nine.

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GEORGE HOWE. (L.S.)
JOHN NORTON. (L.S.)

LONDON:

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Printers to the Queen's most Excellent Majesty. 1859.